

CLAIMS

1. A human HCC-related gene *LAPTM4B*, comprising one of the following nucleotide sequences:

- 5 1) SEQ ID No: 1 in the sequence listings;
- 2) Polynucleotides that encode SEQ ID No: 4 and SEQ ID No: 5 protein sequences in the sequence listings;
- 3) DNA sequences having above 90% homology to the DNA sequences defined by SEQ ID No: 1, SEQ ID No: 2 or SEQ ID No: 3 in the sequence listings, and capable of
- 10 encoding proteins with the same functions.

2. The human HCC-related gene *LAPTM4B* according to claim 1, wherein the said gene is SEQ ID No: 1 in the sequence listings.

15 3. The human HCC-related gene *LAPTM4B* according to claim 2, wherein the said gene is SEQ ID No: 2 in the sequence listings.

4. The human HCC-related gene *LAPTM4B* according to claim 2, wherein the said gene is SEQ ID No: 3 in the sequence listings.

20 5. The human HCC-related *LAPTM4B* proteins, comprising the SEQ ID No:4 and/or SEQ ID No: 5 amino acid sequences in the sequence listing; or the derived protein comprising amino acid sequence 4 and/or sequence 5 with one or several amino acid residues being replaced, deleted, or added, but still have the same activity as the proteins

25 which comprise SEQ ID No:4 and/or SEQ ID No: 5 amino acid sequences.

6. The human HCC-related *LAPTM4B* proteins according to claim 5, wherein the said protein comprises SEQ ID No:4 and/or SEQ ID No: 5 amino acid sequence in the sequence listings.

30 7. The expression vectors containing the gene according to claim 1.

8. The cell lines containing the gene according to claim 1.

9. The reagents comprising various proteins or their antibodies directed against the proteins according to claim 5 as activity ingredients.

5 10. An application of the human HCC-related gene according to claim 1, and/or the proteins according to claim 5 in the preparation of reagents for HCC detection.